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GOOD-ARK

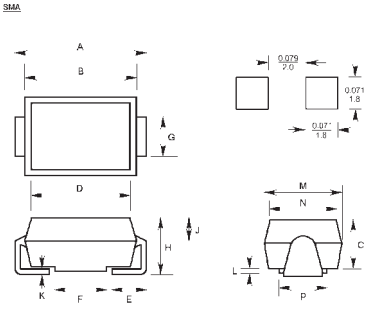
GR1A THRU GR1M

SURFACE MOUNT FAST SWITCHING RECTIFIER

Reverse Voltage - 50 to 1000 Volts
Forward Current - 1.0 Ampere

Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- For surface mounted applications in order to optimize board space
- Low profile package
- Built-in strain relief, ideal for automated placement
- Fast switching for high efficiency
- Glass passivated chip junction
- High temperature soldering: 250℃/10 seconds at terminals



Mechanical Data

- **Case:** SMA molded plastic over passivated chip
- **Terminals:** Solder plated, solderable per MIL-STD-750, method 2026
- **Polarity:** Color band denotes cathode end
- **Weight:** 0.004 ounce, 0.118 gram

DIMENSIONS					
DIM	inches		mm		Note
	Min.	Max.	Min.	Max.	
A	0.216	0.226	5.48	5.74	
B	0.176	0.182	4.48	4.63	
C	0.094	0.100	2.40	2.55	
D	0.170	0.176	4.33	4.48	
E	0.039	0.055	1.00	1.40	
F	0.080	0.081	2.03	2.07	
G	0.068	0.083	1.72	2.10	
H	0.112	0.118	2.85	3.00	
J	0.057	-	1.44	-	
K	-	0.018	-	0.45	
L	0.016	-	0.40	-	
M	0.109	0.115	2.77	2.93	
N	0.105	0.107	2.67	2.73	
P	0.078	0.081	2.00	2.05	

Maximum Ratings and Electrical Characteristics

Ratings at 25℃ ambient temperature unless otherwise specified.

	Symbols	GR1A	GR1B	GR1D	GR1G	GR1J	GR1K	GR1M	Units
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	Volts
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	Volts
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	Volts
Maximum average forward rectified current at T_L=90℃	$I_{(AV)}$	1.0							Amp
Peak forward surge current 8.3mS single half sine-wave superimposed on rated load (MIL-STD-750D 4066 method) T_L=90℃	I_{FSM}	30.0							Amps
Maximum instantaneous forward voltage at 1.0A	V_F	1.30							Volts
Maximum DC reverse current T_A=25℃ at rated DC blocking voltage T_A=125℃	I_R	5.0 50.0							μA
Maximum reverse recovery time (Note 1)	T_{rr}	150				250	500		nS
Typical junction capacitance (Note 2)	C_J	10.0						7.0	pF
Maximum thermal resistance (Note 3)	$R_{\omega JA}$ $R_{\omega JL}$	105.0 32.0							℃/W
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150							℃

Notes:

(1) Reverse recovery test conditions: I_F=0.5A, I_R=1.0A, I_{rr}=0.25A

(2) Measured at 1.0MHz and applied reverse voltage of 4.0 volts

(3) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.2x0.2" (5.0x5.0mm) copper pad areas

RATINGS AND CHARACTERISTIC CURVES

FIG. 1 - FORWARD CURRENT DERATING CURVE

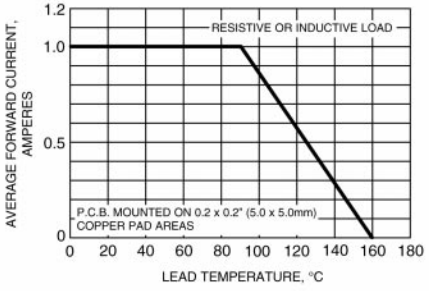

AVERAGE FORWARD CURRENT, AMPERES
1.2
1.0
0.5
0
RESISTIVE OR INDUCTIVE LOAD
P.C.B. MOUNTED ON 0.2 x 0.2" (5.0 x 5.0mm) COPPER PAD AREAS
0 20 40 60 80 100 120 140 160 180
LEAD TEMPERATURE, °C

FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

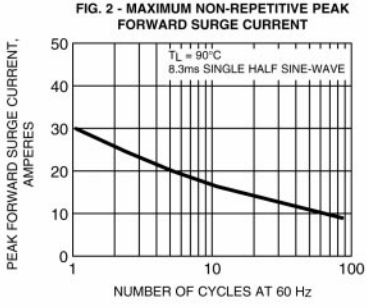


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

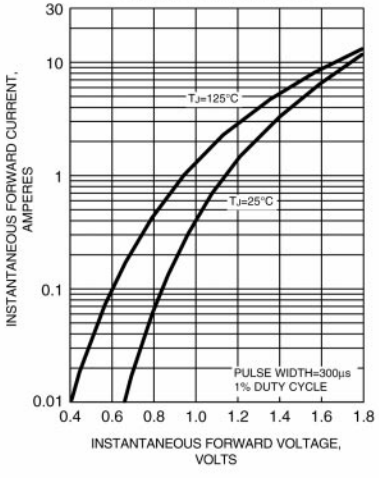


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

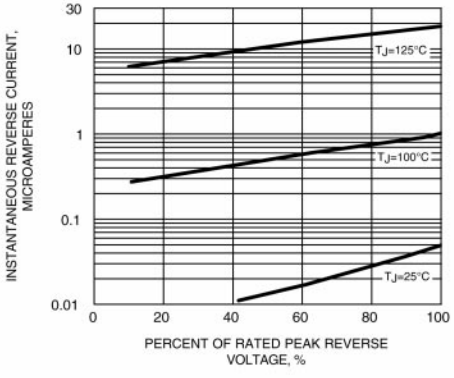


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

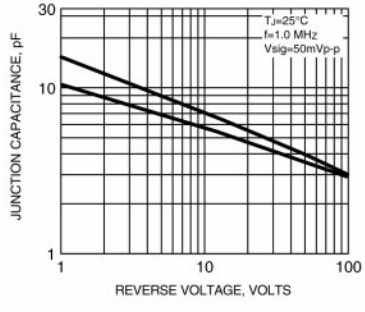


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE